

REMARKS

The above Amendment and the following Remarks are in Reply to the Office Action dated 02/18/2005. Applicant has amended Claims 1, 4-6, 13-16, 18-19, 25 and 28; has cancelled Claims 12, 26 and 27 and has added a new claim 35. Twenty-eight Claims remain pending in this Application of which Claims 1, 18 and 28 are in independent form for reconsideration and further examination. In light of the amendments and this Reply, the Applicant respectfully requests reconsideration and further examination of this Application.

Rejection under 35 U.S.C. § 103 (a)

In paragraph 2, page 2 of the Office Action, the Examiner rejected Claims 1, 3-6, 8-16 under 35 U.S.C. 103(a) as being unpatentable over Garreau (U.S. Pat. 6,769,035) in view of Huang (6,280,252) and further in view of Golka (6,507,882). In light of the above Amendments to independent Claims 1, 18, 27 and 28, and the Remarks that follow, this rejection is respectfully traversed.

Claim 1:

The combination of Garreau, Huang and Golka fails to disclose the elements of Claim 1. In particular the combination, fails to disclose a Mobile computing device that can be configured to operate both as a USB host or a USB device with “a processor, wherein an operating system of the mobile computing device instructs the processor to operate as a USB controller and the USB controller can be configured to operate as a USB host or a USB device and the processor is operationally coupled to a first power conversion circuit in the mobile computing device; a housing having an expansion module bay for receiving an expansion module that includes a circuit for providing an expansion module function including a game card and/or a modem functionality wherein the expansion module is operationally coupled to the mobile computing device via a first USB connector in the expansion module and a second USB connector positioned in the housing to mate with the first USB connector; and the circuit interfaces with a USB interface and a second power conversion circuit, which is coupled between the USB interface and the first

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USB connector in the expansion module; and the first and second USB connectors have a form factor that is different than a standard USB form factor; and at any given time only the first power conversion circuit or the second power conversion circuit performs power conversion as specified by convention; wherein the expansion module can be configured as a USB device by using the USB interface having a USB bus interface and a layer that handles routing data between the bus interface and plural endpoints. (Amended Claim 1).

First, there is no suggestion or motivation for combining Garreau, Huang and Golka. Assuming arguendo that the references are combined, the combination fails to disclose the elements of amended Claim 1, for at least the reasons given below.

Garreau does not provide a “mobile computing device” wherein an operating system of the mobile computing device instructs the processor to operate as a USB controller and the USB controller can be configured to operate as a USB host or a USB device and the processor is operationally coupled to a first power conversion circuit in the mobile computing device”.

(Amended Claim 1) Garreau fails to disclose an expansion module with “a circuit for providing an expansion module function including a game card and/or a modem functionality wherein the expansion module is operationally coupled to the mobile computing device via a first USB connector in the expansion module and a second USB connector positioned in the housing.”

(Amended Claim 1).

With respect to Huang, The Examiner relies on Col. 1, lines 5-10, 36-67 and Col 2, lines 1-9 of Huang (Office Action Page 3). In Col 1, lines 5-10, Huang states that “the present invention relates to an electrical connector having a pair of shells which firmly retain an insulative housing therein and which can be conveniently manufactured, and particularly to a mini USB cable connector having a pair of shells for enclosing the insulative housing therein, thereby providing insulative shielding.” In Col 1, lines 36-67 and 2, lines 1-9, Huang describes the

viding insulative shielding.” In Col 1, lines 36-67 and 2, lines 1-9, Huang describes the structure of the connector. Applicants did not find any reference to a non-standard USB form factor.

The Examiner acknowledges in Page 3 of the Office Action that “Garreau and Huang do not explicitly disclose the computing device includes a first power conversion circuit and the expansion module includes a second power conversion circuit between the first connector and the interface, wherein at any given time only the first power conversion circuit or the second power conversion circuit performs power conversion”.

The Examiner relies on Golka in the Office Action stating that:

“Golka teaches computing device (100) includes a first power conversion circuit (in computer 100, power supply 120 may be modified to provide additional voltages to expansion module 160) and the expansion module 160 includes a second power conversion circuit coupled between the connector and the interface (expansion module 160 may include a power converter to derive the requisite voltages f[r]om the voltages available from power supply 120), wherein at any given time only the first power conversion circuit or the second power conversion circuit performs power conversion (Figs1-2 and col 2 lines 33-46 and col. 4 lines 17-34)” (Office action, Page 3).

Golka shows a conventional desktop computer case 100 (Fig. 1 of Golka and Col 3, line 25) with a “conventional power supply 120” that “provides DC voltages needed by components of the computer”. (Golka, Col. 3, line 35-38). In Golka, expansion module 160 receives power through cables 200 (Col. 4, line 24). The expansion module 160 “may include a power converter to derive the requisite voltages from the voltages available from power supply 120” (Col. 4, lines 27-30).

In the present invention there are two power conversion circuits, one in the expansion module and another in the mobile device (See Figure 3 and Amended Claim 1). Depending on which side needs power conversion, the power conversion circuit performs the power conversion and this can be specified by convention.

The Examiner has relied on Figs 1-2 and Col 2 lines 33-46 and col. 4 lines 17-34 to reject this aspect of the present invention. However, Figs 1 and 2 of Golka simply show a desktop

computer with a main power supply 120 supplying power to expansion module 160. Fig 2 of Golka as described in Col 4, lines 62-67 and Col. 5, lines 1-8 simply show a block diagram of expansion module 160 receiving power from cable 200.

In particular, Col 2, lines 33-46 of Golka state “the system interface board passes connections to the motherboard’s signal paths or supply voltages straight through to the expansion electronic circuitry”.

Col 4, lines 17-34 of Golka in pertinent part states that “power may be provided to expansion module 160 through cables 200 from power supply 120. Some expansion electronics or external circuitry may require voltages not available in computer 100, in which case power supply 120 may be modified to provide the additional voltages or an additional power supply (not shown) may be provided, with the voltages reaching expansion module 160 through cable 200.” Thus, no modification is required to the normal voltage distribution paths of computer 100 and mother board 110”.

As shown above in Col. 4, lines 17-34, Golka is simply to trying to get power to expansion module 160 either by modifying power supply 120 or providing “additional power supply” so that it does not have to modify the power distribution path for the entire desktop computer. Golka does not address or disclose two power conversion circuits that can convert power as specified by convention.

Support for amendments to Claim 1 can be found as follows:

“operating system of the mobile computing device instructs the processor to operate as a USB controller”: Page 6, lines 25-28 of the specification

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“a circuit for providing an expansion module function including a game card and/or modem functionality”: Page 3, Lines 20-21

“the expansion module can be configured as a USB device by using the USB interface having a USB bus interface and a layer that handles routing data between the bus interface and plural endpoints” : Page 3, line 23-28

Based on the foregoing reasons, Claim 1 is allowable over Garreau, Huang and Golka, individually or as a combination fail to disclose the elements of Claim 1.

Therefore, it is respectfully requested that the Examiner’s rejection of Claim 1 under 35 U.S.C. 103(a) as being unpatentable over Garreau, Huang and Golka be withdrawn.

Claims 3-6, 8-11, and 13-16:

Claims 3-6, 8-11, 13-17 depend directly or indirectly from Claim 1, and are patentable over Garreau, Huang and Golka for at least the foregoing reasons provided above with respect to Claim 1. Therefore, it is respectfully requested that the Examiner’s rejection of Claims 3-6, 8-11, 13-16 under 35 U.S.C. 103(a) as being unpatentable over Garreau, Huang and Golka be withdrawn.

Claim 17:

The Examiner rejected Claim 17 under Garreau in view of Huang and Golka and further in view of Kiknis (5,841, 424). Claim 17 depends from Claim 1 and Kiknis does not remove the deficiencies of Garreau, Huang and Golka and is patentable for at least the reasons provided above with respect to Claim 1. Therefore, it is respectfully requested that the Examiner’s rejection of Claim 1 under 35 U.S.C. 103(a) as being unpatentable over Garreau, Huang, Golka and Kiknis be withdrawn.

Claims 18, 21-26, 28, 31-34:

The Examiner rejected independent Claim 18 over Garreau and Golka. First, there is no motivation to combine Garreau and Golka, and even the combination fails to disclose the elements of Claim 18. In particular, the combination does not disclose a Mobile computing device that can operate both as a USB host or a USB device. The device comprising “a housing having an expansion module bay for receiving an expansion module that includes “a circuit for providing an expansion module function including a game card and/or a modem functionality; a processor, wherein an operating system of the mobile computing device instructs the processor to operate as a USB controller and the USB controller is configured to operate as a USB host or a USB device within the housing and the processor is operationally coupled to a first power conversion circuit; and a USB connector with a non-standard form factor coupled to the USB controller; the USB connector positioned within the housing for operationally coupling the circuit to the mobile computing device via a USB interface and a second power conversion circuit, wherein at any given time only the first power conversion circuit or the second power conversion circuit perform power conversion as specified by convention; wherein the expansion module can be configured as a USB device by using the USB interface having a USB bus interface and a layer that handles routing data between the bus interface and plural endpoints; and wherein the first power conversion circuit includes a voltage sensor for sensing a voltage signal on the USB connector and a sensed voltage signal is supplied to a controller of the first power conversion circuit that determines whether the sensed voltage signal should be boosted, reduced or passed through and if the sensed voltage signal is to be boosted, then the controller commands a first switch to send the sensed voltage signal to a charge pump that provides a boosted voltage to a second switch.

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Claim 18 is patentable over Garreau and Golka for at least the reasons provided above with respect to Claim 1. Therefore, it is respectfully requested that the Examiner's rejection of Claim 18 under 35 U.S.C. 103(a) as being unpatentable over Garreau, and Golka be withdrawn.

Claim 26 has been cancelled and claims 21-25 depend directly or indirectly from Claim 18, and are patentable over Garreau, and Golka for at least the foregoing reasons provided above with respect to Claim 18. Therefore, it is respectfully requested that the Examiner's rejection of Claims 21-25 under 35 U.S.C. 103(a) as being unpatentable over Garreau and Golka be withdrawn.

Claim 28 is patentable over Garreau and Golka for at least the reasons provided above with respect to Claim 1. Therefore, it is respectfully requested that the Examiner's rejection of Claim 28 under 35 U.S.C. 103(a) as being unpatentable over Garreau, and Golka be withdrawn.

Claims 31-34 depend directly or indirectly from Claim 28, and are patentable over Garreau, and Golka for at least the foregoing reasons provided above with respect to Claim 28. Therefore, it is respectfully requested that the Examiner's rejection of Claims 31-34 under 35 U.S.C. 103(a) as being unpatentable over Garreau and Golka be withdrawn.

Claim 19 and 29:

The Examiner rejected Claims 19 and 29 under 35 USC § 103(a) as being unpatentable over Garreau in view of Golka and further in view of Huang. Claim 19 depends from Claim 18 and is allowable for at least the reasons given above for Claim 18. Claim 29 depends from Claim 28, and is allowable for at least the reasons for Claim 28. Therefore, in light of the above amendments to Claims 19 and 29 this rejection is respectfully traversed.

Claim 27:

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Cancelled

Claim 35:

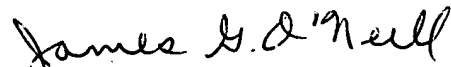
Claim 35 depends from Claim 1 and hence is patentable over Garreau, Huang and Golka for at least the same reasons given above with respect to Claim 1.

CONCLUSION

For the foregoing reasons, Applicant believes Claims 1, 4-6, 13-16, 18-19, 25, and 28-29, 31-35 are allowable, and a notice of allowance is respectfully requested. If the Examiner has any questions regarding the application, the Examiner is invited to call the undersigned Attorney at (949) 955-1920.

Respectfully submitted,

Dated : 08/17/2005

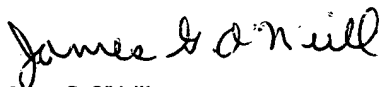


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I hereby certify that this correspondence is being deposited with the United States Postal Service via Express Mail in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, PO Box 1450, Alexandria, VA 22231-1450 on 08/17/05.



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8/17/2005

Date of Signature